

PATENT SPECIFICATION

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(19)



(54) SLIDING TRAY ASSEMBLY

(71) I, FRANK J. LARRE, of Box 452, St. Walburg, Saskatchewan, Canada, a Canadian citizen, do hereby declare the invention, for which I pray that a Patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to new and useful improvements in sliding tray assemblies, particularly sliding tray assemblies adapted to be used for tool boxes, lunch kits, overnight bags, pencil boxes, ladies handbags, jewelry and trinket boxes and the like.

Conventionally, such assemblies either require a framework within which various trays or drawers may slide or, include cumbersome methods of holding one tray relative to the trays immediately above or below.

The present invention overcomes all of these disadvantages by providing a plurality of trays which are slidably and lockably engaged one upon the other so that they may be moved individually, longitudinally in either direction. Furthermore a cover component is provided which is also slidably and interlockably engageable upon the uppermost tray so that it can be moved longitudinally in either direction. Finally a locking member is provided which engages downwardly through slots or apertures in the cover and the bases of the trays, when in the closed position, to prevent inadvertent sliding movement of the trays and cover component particularly when being carried by a handle formed on the upper surface of the cover component.

According to the present invention a sliding tray assembly comprises in combination at least two tray components and a cover component, means to slidably engage one tray component superimposed upon another tray component for longitudinal sliding movement relative to one another and in either direction, means to slidably engage said cover component upon the upper side of the uppermost tray component for longitudinal sliding movement thereupon in either direction, said means to slidably engage said one tray com-

ponent upon said other tray component including a pair of spaced and parallel, longitudinally extending upper rails and a pair of spaced and parallel, longitudinally extending lower rails on each side of each of said tray components, said lower rails of said one tray component slidably and interlockably engaging the said upper rails of the next tray component therebelow, and locking means for said tray components and said cover component when in the closed position, said locking means including an aperture formed in said cover component adjacent one edge thereof, similar apertures formed in the bases of said tray components immediately below said aperture in said cover component, when said cover component and said tray component are in the closed position, a guide and guard bracket secured to the adjacent side of each said tray component surrounding said apertures in the bases thereof and a detachable locking member extending downwardly through said aperture in said cover component and said apertures in said bases of said tray components.

The assembly of the present invention enables all of the trays may easily be moved to the open position for direct viewing and access and is also simple in construction and economical to manufacture.

The invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a front view of the assembly;
 Figure 2 is an end view of the assembly showing trays displaced longitudinally relative to one another;

Figure 3 is an enlarged fragmentary cross sectional view showing the locking mechanism;

Figure 4 is a top plan view of Figure 3; and

Figure 5 is an enlarged cross sectional view of the engagement of an upper and lower rail.

In the drawings like characters of reference indicate corresponding parts in the different figures.

Proceeding therefore to describe the invention in detail, it should be noted that the

individual trays are of a specific configuration. However, it will of course be appreciated that any convenient configuration can be utilized and that the trays and cover can be manufactured from metal, plastic or the like.

Individual tray components are identified generally by reference character 10A, 10B, 10C, etc. and although three tray components are illustrated in Figure 1, nevertheless it will be appreciated that two or more tray components can be used depending upon the use to which the assembly is to be placed.

A cover component collectively designated 11 is provided which will engage on the upper side of the uppermost tray component 10A, it will also engage on the upperside of any of the tray components as will hereinafter become apparent.

Each individual tray component is provided with a pair of spaced and parallel upper rails 12 and a pair of spaced and parallel lower rails 13 and in the embodiment illustrated, these upper and lower rails are formed integrally with the longitudinal sides 14 of the individual tray components. However, it will of course be appreciated that the rails can be manufactured separately and secured to the sides of the tray components by any convenient means such as spot welding and the like.

The upper rails 12 are formed on the upper longitudinal edges of the sides 14, said sides being stepped inwardly as at 15 whereupon the upper rails 12 are formed by outwardly and downwardly curving the edge to form a downturned hook configuration illustrated by reference character 16, when viewed in cross section.

The lower rails 13 are formed on the lower edges of the sides 14 by turning these edges inwardly and upwardly to form an upturned hook configuration 17 when viewed in cross section.

Details of this formation are shown in Figure 5 and when the trays are assembled, the upper rails 12 slidably and interlockably engage with the lower rails 13 of the tray component immediately above. This means that the individual tray components can be moved longitudinally relative to one another as illustrated in Figure 1 or can be closed so that the ends of the tray components are flush with one another.

The tray components can be manufactured with a different depth to the individual tray components but the upper and lower rail configurations are similar so that the trays can be assembled in any order desired depending upon the choice of the user.

The cover component 11 is of a similar configuration to the tray components when viewed in plan and includes a pair of downwardly extending rails 18 formed on the spaced and parallel longitudinal edges of the cover component. These downturned rails take

the form of spaced and parallel downturned flanges or flange portions 19 which then curve inwardly and upwardly to form hook configurations similar to the lower rails 13 hereinbefore described, and these rails 19 slidably and interlockably engage the upper rails 12 of the tray component upon which the cover is designed to engage. This cover 11 is also slidable longitudinally in either direction relative to the uppermost tray which, in the present embodiment, is identified by reference character 10A.

Means are provided to detachably lock the tray components and the cover component in the closed position and in this regard, an aperture in the form of a slot 20 is formed through the cover component adjacent one of the longitudinal side edges thereof. Similar apertures 21 are formed through the bases 22 of the individual trays immediately below the aperture 20 when the tray components and cover component are in the closed or aligned position.

Guide and guard brackets 23 are secured to the sides 14 of the trays and surround the apertures 21 firstly to prevent any of the contents of the trays from covering the apertures 21 and secondly, to guide the engagement of the locking member 24 as it passes downwardly through the apertures. This locking member 24 is in the form of a flat strip having a stepped upper end 25, which engages downwardly through the aperture 20 in the cover component and through the apertures 21 within the individual tray components. Once engaged any sliding longitudinal movement of the cover component or the individual tray components, is prevented.

In this regard the lower end of the locking member 24 may be tapered as at 26 to facilitate the engagement thereof through the apertures.

A small plate 27 is secured to the cover component 11 and extends upwardly therefrom adjacent the stepped upper end 25 of the locking member 24. An aperture 28 is formed through the upper end of the locking member 24 and a similar aperture 29 is formed through the plate 27 so that fastening means in the form of a padlock 30 can be engaged through the locking member aperture 28 and the plate aperture 29 thus preventing unauthorized access to the interior of the tray components.

From the foregoing it will be seen that a sliding tray assembly is provided in which any individual tray can be moved relative to the others for easy access to the interior thereof and which can be operated in either direction. Furthermore the assembly can be held in the closed position by the locking member 24 and can be locked if desired, by means of padlock 30. The formation of the upper and lower rails is such that any of the trays can be engaged in any order desired, with

any of the other trays and the cover component will engage the upper rails of any of the tray components. The longitudinal sides of the assembly are substantially flush when viewed in end elevation due to the inwardly stepped portion 15 of the sides prior to the formation of the upper rails 12.

WHAT I CLAIM IS:—

1. A sliding tray assembly comprising in combination at least two tray components and a cover component, means to slidably engage one tray component superimposed upon another tray component for longitudinal sliding movement relative to one another and in either direction, means to slidably engage said cover component upon the upper side of the uppermost tray component for longitudinal sliding movement thereupon in either direction, said means to slidably engage said one tray component upon said other tray component including a pair of spaced and parallel, longitudinally extending upper rails and a pair of spaced and parallel longitudinally extending lower rails on each side of each of said tray components, said lower rails of said one tray component slidably and interlockably engaging the said upper rails of the next tray component therebelow, and locking means for said tray components and said cover component when in the closed position, said locking means including an aperture formed in said cover component adjacent one edge thereof, similar apertures formed in the bases of said tray components immediately below said aperture in said cover component, when said cover component and said tray component are in the closed position, a guide and guard bracket secured to the ad-

jacent side of each said tray component surrounding said apertures in the bases thereof and a detachable locking member extending downwardly through said apertures in said cover component and said aperture in said bases of said tray components. 40

2. The assembly according to Claim 1 which includes means to detachably lock said locking member in the aperture engaging position aforesaid, said last mentioned means including an apertured plate secured to and extending upwardly from said cover component adjacent the upper end of said locking member, said upper end of said locking member also being apertured, and detachable fastening means extending through the aperture in said apertured plate and said upper end of said locking component. 45 50 55

3. The assembly according to Claim 1 or Claim 2 in which said upper rails include an outwardly and downwardly curved portion forming a downturned hook configuration when viewed in cross section, said lower rails including an inwardly and upwardly curved portion forming an upturned hook configuration when viewed in cross section, the mutually engaging curved hook portions of adjacent trays slidably and interlockably engaging one another. 60 65

4. A sliding tray assembly substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings. 70

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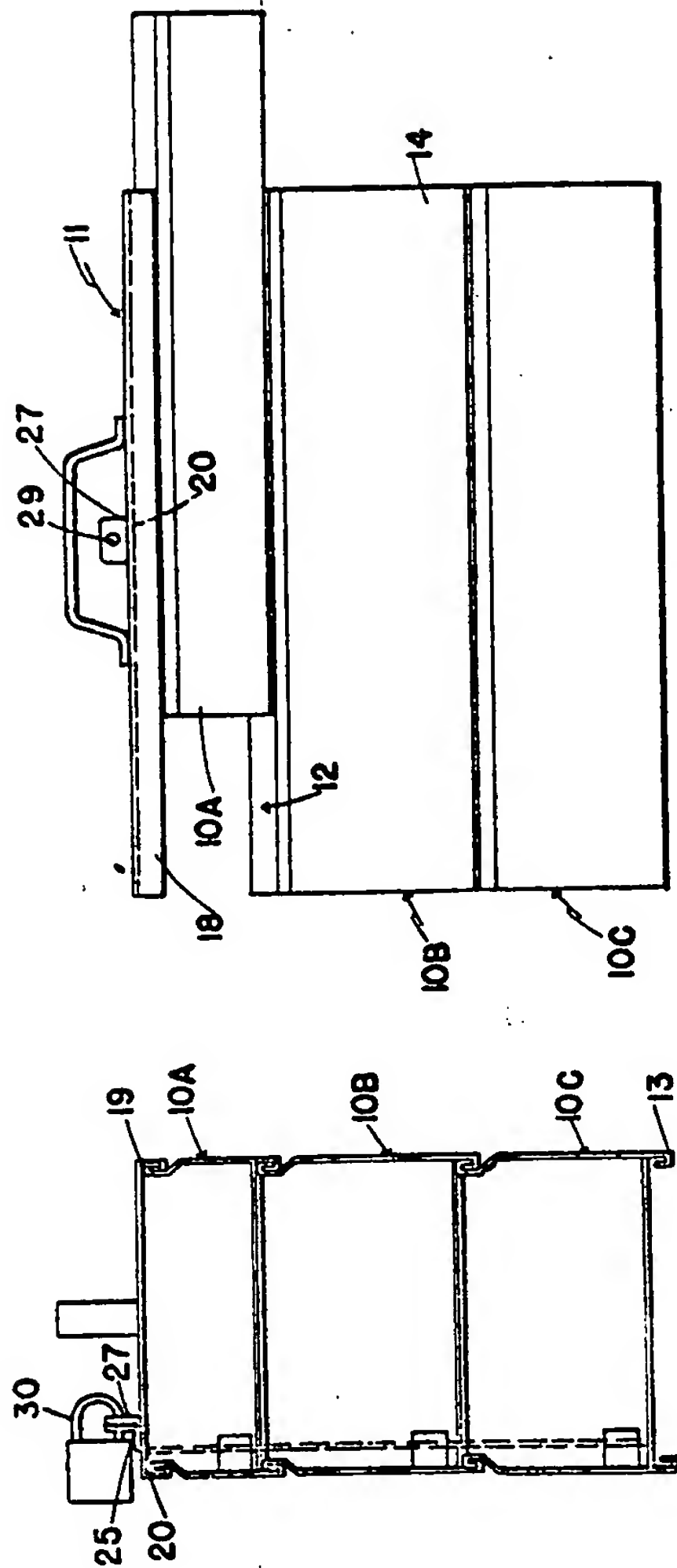


FIG. 1

FIG. 2

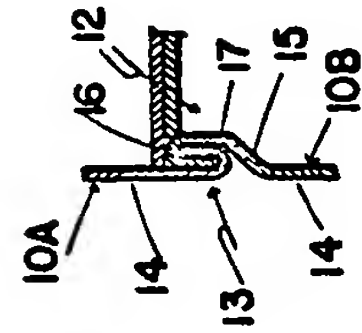


FIG. 5

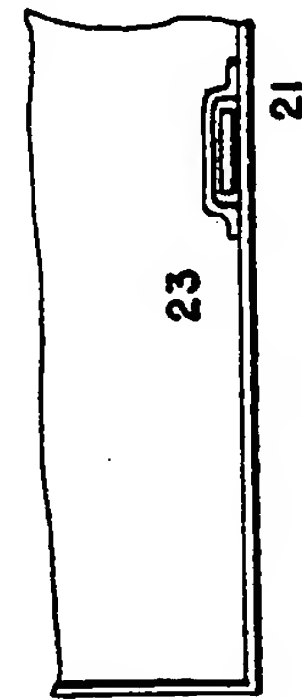


FIG. 4

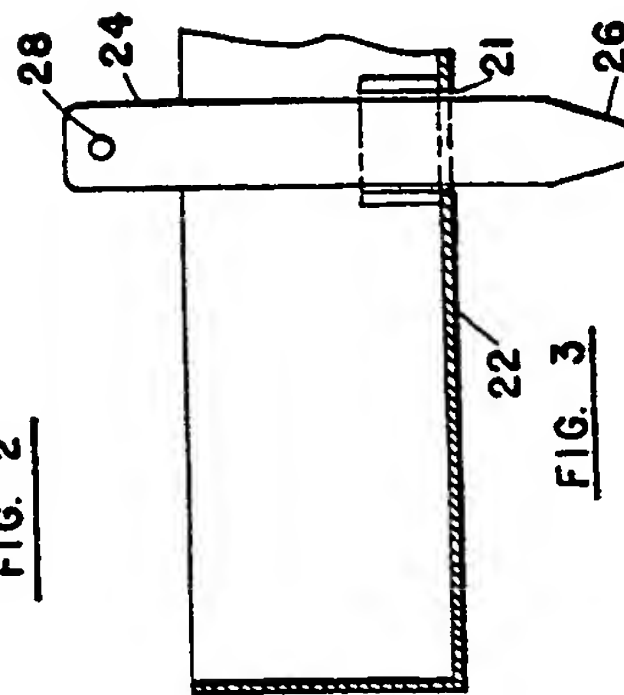


FIG. 3